

REMARKS

Claims 1-29 are all the claims pending in the application. Claims 1-4 and 7-11 are rejected. Claims 5-6 and 12-29 are objected to but would be allowable if placed into independent form.

Applicant has placed most of claims 5-6 and 12-29 that depend directly from any of claims 1, 2 or 7 into independent form because of the indication of their allowability without the need for further limitation of the claims. Applicant has not amended any of rejected independent claims 1, 2 or 7 because Applicant strongly believes that there are solid bases that support their patentability.

Claim Rejections - 35 U.S.C. §102

Claims 2 and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by Igarashi (5,740,462). This rejection is traversed for at least the following reasons.

The Examiner continues to assert that Igarashi discloses a font data reading memory and font data reading method, as claimed. Specifically, the Examiner asserts that Igarashi has a font memory, in which a plurality of groups of font data having different resolutions and represented by a dot pattern are stored. The Examiner asserts that the font memory has the following structure, with reference to Figs 1 and 2:

- A font management table 107, as detailed in Fig. 2 and having an area 205 as being an address specifying a font, area 204 as related to size, and area 203 as the being data identifying a basic resolution, which corresponds to the medium for storage of font and resolution.
- An input element 120 in Fig. 1 is considered the plurality of first input terminals for specifying the font and the plurality of second input terminals for specifying the resolution
- Output elements 121 and 122 are considered to correspond, respectively, to the plurality of first output terminals for providing the font and the plurality of second input terminals for providing the resolution level data.

With respect to claim 2, the Examiner has converted the rejection to one based solely on Igarashi.

Again, claim 2 is directed to a “font memory” having a plurality of first input terminals, a plurality of second input terminals, a plurality of first output terminals and plurality of second output terminals, such that the claim covers at least the embodiment illustrated in Fig. 3. The claim specifies that the resolution level is “*sequentially altered at a predetermined timing*” and further specifies that font data corresponding to a character code and resolution signals representing a resolution level are output from the terminals. The claimed invention clearly differs from Igarashi for the following reasons.

No Font Memory

As already noted, Igarashi concerns a system and not a font memory. The structure illustrated in Fig. 1 is called an “image forming apparatus 100” and has in I/O, CPU, generator 103 and plural ancillary storage 112, 107, 108, all of which combine to combine inputs to a memory 104 for presentation to an image forming device 106. Igarashi is not directed to the subject matter of the claim. The Examiner identifies bits and pieces of the system and calls that a “font memory.” The structure that could even remotely be considered a font memory is a component of the overall system, but that structure does not have the remaining claimed characteristics.

No Plural Input Terminals for Address Signals To Font Memory

The Examiner’s reliance on input 120 as the source of a plurality of first input terminals for a font memory is unavailing for several reasons. First, the reference only discloses a single input to an I/F 101. There is no teaching or suggestion that the input may have plural input terminals, and given that the input is of character data which is delivered serially, there is no need for plural terminals. Second, the single input is of character data and not address signals that specify font data. Third, the specification makes it clear that the input is to a CPU 102, which does not need any address input, and not to a font memory.

The Examiner does not explain what will be the plurality of second input terminals for input of resolution levels of font data. Further, there is no teaching or suggestion that resolution data is input at all. Certainly, there is no disclosure of separate input terminals for resolution data that differ from those for character data.

No Plural Output Terminals

The Examiner's reliance on output 121 as the plurality of first output terminals for a font memory is unavailing, as the reference only discloses a single output line from an I/F 105 for delivery of image data. There is no disclosure that plural terminals would be used. In the absence of plural terminals for font data, there can be no anticipation.

Similarly, the Examiner's reliance on output 122 as the plurality of second output terminals for a font memory is unavailing, as the reference only discloses a single output line from an I/F 105 for delivery of control data. There is no disclosure that plural terminals, particularly ones separate from the font data, would be used to provide resolution level data. In the absence of plural second terminals for resolution data, there can be no anticipation.

No Variable Resolution Data Output

The claim clearly requires an output of resolution data that is sequentially altered at a predetermined timing. Igarashi has preset resolution data in table memory 107 and in non-volatile memory 112, as explained in Igarashi. That resolution data does not change. The specification makes it clear that if resolution is to change, it is done through the interface panel 111 to make the CPU change the resolution or by a control command sent from an upper level apparatus. The instruction is directed from the CPU to the image forming device 106, The instruction does not come from memory.

No Sequential Alteration of Resolution at a Predetermined Timing

The disclosure of the system of Igarashi has no teaching or suggestion that the resolution will be changed sequentially or periodically. Only the CPU changes the resolution and, in such case, only in response to a command. This is not sequential and at a periodic timing.

Indeed, in a previous Office Action, the Examiner admitted that Igarashi does not explicitly disclose "the resolution level is sequentially altered at a predetermined timing, in addition to font data corresponding to the character specified by the character specifying address signals and corresponding to the resolution level being output from said first output terminals, resolution signals representing the resolution level are output from said second output terminals."

Claim 7

With regard to claim 7, the patentability of the claim is based upon the failure of Igarashi to teach a font storage medium where both font data and variable resolution data are entered. As already noted, the content of font management table 107, as illustrated in Fig. 2, is only of a fixed resolution. Moreover, the content of table 107 is simply of a font list, as illustrated in Fig. 6. The table 107 is not a font memory, as would be clear from the description of its contents, and the manner in which it is formed in connection with Figs. 4 and 5. The only structure identified as a font memory is element 108. There is nothing to suggest that memory 108 has resolution data. Neither of memory 108 or table 107 contains a plurality of font data having different resolutions.

Claim Rejections - 35 U.S.C. §103

Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over Igarashi (5,740,462). This rejection is traversed for at least the following reasons.

As previously explained, the invention of claim 1, particularly with reference to Fig. 1 of the present application, is directed to a font memory in which a plurality of groups of font data, having (1) different resolutions and (2) represented by dot patterns, are stored for respective character codes. The font memory of a first embodiment, as illustrated in Fig. 1, includes a plurality of first input terminals for character-specifying address signals (A_0A_x) and a plurality of second input terminals for specifying resolution levels (L_0-L_z). In addition, there are a plurality of output terminals for delivering stored font data (D_0-D_y). The claim states that on the basis of (1) the character specifying address and (2) font resolution level, font data is output from the font memory.

For many of the reasons that claim 2 is patentable over Igarashi, claim 1 also would be patentable. Igarashi does not disclose (1) a “font memory” having (2) plural first input terminals for input of character specifying address information, (3) plural second input terminals for specifying resolution levels, and (4) plural output terminals through which font data is output, as only a single output 121 is shown for image data. It would not be obvious to make a single terminal a plurality of terminals, as there is no teaching or suggestion for doing so. Moreover,

there is no teaching of an output from a memory of character data having variable resolution levels. This feature is distinctive and important, and is not taught or suggested by Igarashi.

In the present invention at page 10, line 19, the input signals specifying the character address identify the storage area (the memory cell group) that contain a font pattern determined by the font type and character code. The font resolution level signal specifies the resolution level from among the font patterns specified by the character specifying address. Nothing of this type is taught in Igarashi.

The first embodiment of Applicant's font memory includes the capability for outputting font data of variable resolutions and size. The advantage of such storage is reduced access time, as explained at page 14, line 4. Other embodiments have a similar advantage.

In short, none of the individual memory devices (107, 108, 112) disclosed by Igarashi can meet the font memory limitations specified in the claim. In the absence of such structure, the rejection of the claim as being unpatentable over Igarashi is clearly overcome.

Claims 3 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Igarashi (5,740,462) in view of Suzuki (JP 4-10290367). This rejection is traversed for at least the following reasons.

As a preliminary matter, Applicant notes that claim 3 is dependent from claim 1 and claim 8 is dependent from claim 2. Thus, these claims should be allowable for the reasons already given with regard to the patentability of those claims.

Further, the claims specify the presence of density level output terminals from the memory. There is no teaching that either line 121 or 122 of Igarashi can carry density level signals. Indeed, Igarashi et al does not mention density levels.

Finally, the Examiner admits that Igarashi does not explicitly disclose "based on the number of dots in the dot pattern, a density level is calculated when the dot pattern is displayed and density level signal specifying the calculated density level are output from said density level output terminals." The Examiner looks to Suzuki for an image processor in which pixel

calculation unit calculates the output density of the sub pixel of an input image signal based on a dot pattern.

As already noted, Igarashi does not concern a font memory as claimed in claims 1 and 2. Suzuki does not remedy this deficiency as, by the Examiner's own admission, it concerns a system where a processor is used to calculate a density level when the dot pattern is displayed.

The rejected claims are directed to the memory of claims 1 or 2 coupled with the post memory output feature of the invention. Even if Suzuki teaches such processor operation, there is no teaching or suggestion in Suzuki that would cause Igarashi to be modified such that they disclose the basic font memory as claimed. Thus, this rejection is overcome.

Claims 4 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Igarashi. This rejection is traversed for at least the following reasons.

These claims depend from at least one of claims 1, 2, 3 and 8 and would be patentable for the reasons already given with regard to those claims.

Further, the Examiner previously admitted that Igarashi does not explicitly disclose "an exclusive address given to each dot forming the dot pattern and the font data is information representing the dot pattern using the address exclusive to a particular dot." The Examiner now asserts that such feature is disclosed with respect to item 205 in Fig. 2. However, the Examiner appears to ignore the claim language requiring that each dot has an address. Nothing in area 205 of Igarashi concerns an address for each dot. In fact, it is quite clear that the only address in area 205 is an address of a font (col. 3, lines 66-67; col. 4, lines 54-55), and that address is not even of an individual character, as it is part of a management table and not a font memory. Clearly, the claim limitation is not met by Igarashi.

Claims 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Igarashi in view of Suzuki et al (JP 4-10290367). This rejection is traversed for at least the following reasons

The Examiner repeats the text of the rejection for claims 4 and 9 and does not even mention Suzuki. The claims would be patentable because Igarashi alone, or in combination with

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Suzuki, does not teach the basic features of the parent claims, or the detailed supplemental limitations of the rejected claims. Suzuki has been cited against other claims solely for its disclosure of an image processor in which a pixel calculation unit calculates an output density of a subpixel of an input image signal based on the dot pattern. How this is relevant as a teaching to modify Igarashi in a manner that would make up the deficiency of Igarashi, as already explained, and further cause a modification of Igarashi to incorporate stored density data, is not explained by the Examiner, because there is none. The Examiner is using only hindsight to combine the references, and even their combination cannot teach the claimed invention.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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